

Of course, since the inverter is "powered from a DC source", the clear implication is that the capacitance of capacitor 36 be very large in comparison with that of capacitor 68; which implies that in effect capacitor 68 is connected in parallel with the "series-connected combination".

In other words, as far as rate-of-change of voltage is concerned, it makes no difference whether capacitor 68 is connected directly across the "series-connected combination" or connected thereacross by way of capacitor 36.

Technically, the term "capacitor means" of claim 119 refers to the series-combination of capacitors 68 and 36.

In any case, Examiner's rejection of claim 119 on the basis of 35 U.S.C. 112 is clearly erroneous.

Examiner rejects claims 120 and 121 on the basis of 35 U.S.C. 102(a) as being clearly anticipated by Rhoads, asserting that "load means T2, R4, C3 of Rhoads are connected from center-tap A with the bottom AC input line".

It appears to Applicant that Examiner misunderstands the operation of Rhoads' circuit. From the circuit itself, as well as from Rhoads' description, it is clear that T2, R4, C3 can in no way be considered as "load means".

According to Rhoads' Fig. 2A, windings 60, 62, 64 and 66 on transformer T2 represent the load connection means for his inverter; and, as stated by Rhoads in column 6, lines 61-64, "the parallel combination of resistor R4 and capacitor C3" is "present for safety reasons".

Examiner should note that the value of R4 is 47 Kohms (column 8, line 14); and, since C3 is 4 microFarads (column 8, line 25) and the inversion frequency 20 Khz (column 5, line 9), the impedance of C3 is only 2 ohms -- which is 23,500 times lower than that of R4. Thus, it is patently clear that C3 in combination with R4 can not constitute any substantive load means -- especially when compared with the power handling capabilities of the main inversion transistors Q1 and Q2, which can provide an output of up to 2000 Watt.

Moreover, except when Rhoads' inverter is loaded -- such as by way of its load-windings 60, 62, 64 and/or 66 -- there will be substantially no current flowing to the parallel combination of C3 and R4. In fact, the only current then flowing would be the current provided by the series combination of R10 and C7; which amount of current will be limited by the 8000 ohm reactance of capacitor C7 to about 20 milliamp; which implies that the voltage across C3 will be limited to about 40 millivolt -- for a power dissipation in R4 of under 0.035 microwatt.

Even aside from the above considerations, it should be clear to anyone of but ordinary skill in the art that T2, R4 and C3 in Rhoads' inverter of Fig. 2A can in no reasonable way be interpreted as a load means: In the absence of indications to the contrary, the impedance of the primary winding of T2 (i.e., the winding with terminals 52 and 54) must be assumed to be of substantially infinite magnitude (especially as compared with the impedance of C4, which is 2 ohm) -- except when there is a substantive load present at one of the transformer's secondary windings.

To anyone of but ordinary skill in the art, it should be unambiguously clear that the load means in Rhoads' inverter is whatever is connected between terminals 52 and 54 of the primary winding of T2.

Hence, Applicant submits that Examiner's rejection of claims 120 and 121 is clearly inappropriate since it is based on the erroneous assumption that the combination of T2, R4 and C3 can be considered a load means for Rhoads' inverter.

Examiner rejects Claims 116, 118 and 122 under 35 U.S.C. 102(a) as being anticipated by Rhoads, stating that "Rhoads circuit (fig. 2A) includes a series connected inductor (primary of T2) and capacitor (C3) connected as claimed, having inherently lower frequency than the fundamental frequency of the inverter output".

In making his rejection, Examiner makes the assumption that the primary winding of T2 is an inductor. This assumption is invalid. There is no indication in Rhoads' specification that this primary winding contains inductance; and, without indication to the contrary, it must be assumed that transformer T2 is substantively an "ideal" transformer (i.e., in its non-loaded condition, a transformer with a substantially infinitely large primary impedance).

In other words, an inductor is an energy-storing element. However, absent special provisions to the contrary, the primary winding of the T2 transformer is not an energy-storing element.

Moreover, as argued hereinabove in connection with claims 120 and 121, it is totally unreasonable to construe R4 as a load.

Hence, Applicant submits that Examiner's rejection of claims 116, 118 and 122 is clearly inappropriate since, inter alia, it is based on the erroneous assumption that the primary winding of Rhoads' transformer T2 is an inductor.

AMENDMENTS TO CLAIMS

Please cancel claims 116, 117, 119 and 123 in their entirety, and substitute the following new claims in their place.

f' 124. In a ballasting circuit (for a gas discharge lamp, said ballasting circuit comprising a self-oscillating inverter adapted to provide an AC voltage across a pair of output terminals) the improvement comprising:

Sub I 124 a series-combination of an inductor and a capacitor connected across said pair of output terminals, said series-combination having a natural resonance frequency;

connect means for connecting said gas discharge lamp in circuit with said series-combination; and

feedback means connected in circuit with said series-combination and operative to cause the inverter to self-oscillate at a frequency higher than said natural resonance frequency.

I 125. The improvement of Claim 124 wherein said feedback means comprises saturable inductor means.

Sub I 126 126. In a ballasting circuit for a gas discharge lamp, said ballasting circuit comprising a self-oscillating inverter adapted to provide an AC voltage across a pair of output terminals, the improvement comprising:

a series-combination of an inductor and a capacitor connected across said pair of output terminals, said series-combination having a natural resonance frequency;

connect means for connecting said gas discharge lamp in circuit with said series-combination; and

feedback means connected in circuit with said series-combination and operative to cause said inverter to self-oscillate at a frequency not lower than said natural resonance frequency, said feedback means comprising saturable inductor means.

Sub H3 127. In a circuit for powering a load, said circuit comprising a self-oscillating inverter adapted to provide an AC voltage across a pair of output terminals, the improvement comprising:

a series-combination of an inductor and a capacitor connected across said pair of output terminals, said series-combination having a natural resonance frequency;